

A NEW SPECIES AND NEW COMBINATION OF MEXICAN *ERIGERON* (COMPOSITAE)

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ABSTRACT

A new species, *Erigeron tephropodus* Nesom, is recognized from Oaxaca. *Erigeron lepidopodus* (Robinson and Fernald) Nesom is transferred from *Aster* to a more natural position. Description and illustrations are given for both.

Recent studies of Mexican *Erigeron* have revealed the existence in Oaxaca of a new species, described below. Another species, from Chihuahua and Durango, is transferred to *Erigeron* from *Aster*. A full description is given of the latter because of its unique morphology and the limited description given in the original publication.

ERIGERON tephropodus Nesom, sp. nov. (Fig. 1).

Flosculorum radiatorum numerosorum ligula angusta circinata necnon phyllariis inter se aequilongis *E. longipedi* DC. et *E. scaposo* DC. ut videtur affinis, sed stolonibus foliatis elongatis, foliis caulinis haud amplexicaulibus, pube caulium foliorumque paginae inferioris albovillosa, necnon pappi setis 8-12 tenuissimis diversa.

Perennial herbs from short caudices with fibrous roots, producing 1-2 erect stems and 1-several leafy, decumbent stolons. Erect stems 10-15 cm tall, simple or with 1-2 short branches on the lower half, often purplish, white-villous; stolons up to 35 cm long, densely villous near the tips, less so below. Leaves white-villous below, moderately appressed-pubescent above, eciliate, basal 20-87 mm long, blades 4-20 mm wide, elliptic-obovate, with 2-4 pairs of shallow, mucronulate serrations on the upper half, long-attenuate to petiolar region 1/8-1/3 as long as leaf, cauline mostly on lower half of erect stem, gradually reduced in size upward, toothed, becoming sessile, the uppermost entire, linear-oblongate, 8-14 mm long, leaves of stolons relatively even-sized, 15-25 mm long, short-petiolate. Heads terminal on peduncles 2.0-7.5 cm long and at stolon tips; involucre hemispheric, 7-9 mm wide (pressed); phyllaries in 2-4 equal to subequal series, narrowly elliptic-oblongate with acuminate apices, 3.5-5.0 mm long, 0.3-0.6 mm wide, light green, outer sparsely spreading-pubescent, densely and minutely stipitate-glandular, margins and tips often purplish, scarious on the inner, midregions greenish-brown; receptacles not observed. Ray flowers ca 120-180 in 2-4 series, corollas white, drying white, 6.0-7.5 mm long, ligules 0.4-0.6 mm wide, 3-4 veined, enrolling with maturity. Disc flowers funnel-form, not inflated or indurated, 2.8-3.2 mm long; style branches 0.5-0.6

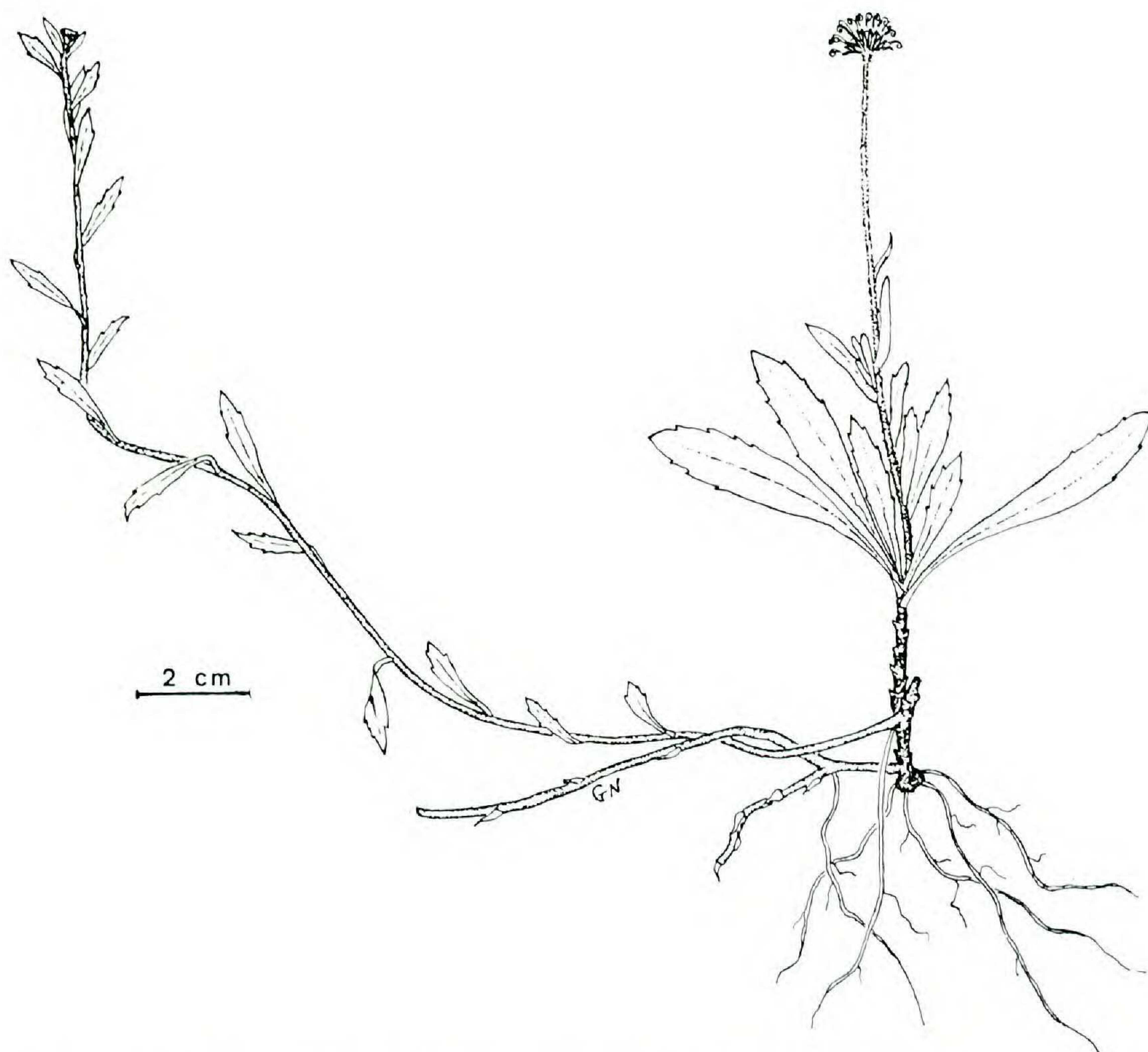


Figure 1. Habit sketch of *Erigeron tephrodopus* Nesom (Holotype).

mm long, including the shallowly triangular to widely deltate collecting appendages 0.1–0.2 mm long. Achenes strigose, radially compressed, 2-ribbed, mature size not observed; carpodium 3–5 cells high; pappus of ray and disc achenes similar, of 8–12 very fragile bristles $\frac{3}{4}$ – $\frac{5}{6}$ the disc corolla height, with an outer series of setae less than 0.1 mm high.

TYPE: MÉXICO. OAXACA: 8 km SW of Tlaxiaco, oak forest with scattered pines, steep, rocky ravines, shallow soil over limestone outcrops, abundant on banks near stream, 1900 m, 7 Feb 1965, *R. McVaugh* 22299 (HOLOTYPE: MICH!; ISOTYPE: CAS!, ENCB!).

Additional collections examined: GUERRERO: Cacahuamilpa, 15 Jan 1956, *Paray* 1882 (ENCB). MORELOS: Alrededores de Alta Palmira, Mpio. de Temixco, 1300 m, 4 Mar 1968, *Flores Crespo* 278 (ENCB).

Erigeron tephrodopus is widely divergent from any possible known relatives. The large number of ray flowers with very narrow, curling ligules and the phyllaries of equal to subequal length are distinctive characters which it shares with members of the *E. longipes* DC.-*E. scaposus* DC. alliance. How-

ever, from these it differs significantly in its non-clasping cauline leaves and white, densely villous pubescence on the erect stems and lower leaf surfaces. Achenes of *Erigeron tephropodus* have only 8–12 pappus bristles, compared to the 18–24 typically found on achenes of *E. longipes*-*E. scaposus*, and the long, herbaceous, leafy stolons bearing terminal capitula in *E. tephropodus* contrast with the slender rhizomes in *E. longipes*-*E. scaposus*, which are subterranean, scale-leaved, and rapidly become woody.

ERIGERON lepidopodus (Robinson and Fernald) Nesom, comb. nov. (Fig. 2)

Aster lepidopodus Robinson and Fernald, Proc. Amer. Acad. A. & S. 30: 117. 1894.
 TYPE: MÉXICO. CHIHUAHUA: Pine forests about Chuchuichupa, 14 Jun 1891, C. V. Hartman 697 (HOLOTYPE: US!; ISOTYPE: US!).

Perennial herbs from fibrous roots; erect stems produced from long (3–15 cm), slender, decumbent, rhizomiform branches with scale leaves. Erect stems 6–28 cm tall, simple or with 1 (2–3) short branches on upper half, often purple near the base, sparsely to moderately spreading- to deflexed-spreading-pubescent with trichomes 0.5–1.1 mm long, sparsely to moderately minutely stipitate-glandular at least in the peduncle region. Leaves shiny-textured above, markedly lighter in color below, sparsely spreading-pubescent to glabrous or glabrate, margins strongly ciliate near the base or in lower half, basal in a rosette at the stem-rhizome juncture or sometimes completely absent, 10–18 mm long, blades 3–7 mm wide, obovate, entire, attenuate to petiolar region 1/8–1/10 as long as leaf, apex apiculate to mucronulate, cauline mostly linear, 6–26 mm long, 0.6–2.1 mm wide, entire, sessile, ascending, even-sized but abruptly reduced to 1–2 linear bracts below the heads, scale leaves triangular, 3–12 mm long, 1.5–3.2 mm wide at bases, stramineous and thin with 3–5 parallel veins, glabrous or with short-ciliate margins, sometimes directly transitional to cauline leaves (when basal absent). Heads terminal on peduncles 2.5–10.0 cm long; involucre hemispheric, 12–20 mm wide (pressed); phyllaries in 3–5 imbricated to unequal series, reflexing after release of achenes, narrowly triangular to narrowly oblanceolate, inner 8.0–9.5 mm long, 0.8–1.5 mm wide, stramineous with a dark brown midregion and scarious margins, outermost 1/2–2/3 as long as inner, glabrate to moderately spreading-pubescent and densely to very sparsely stipitate-glandular; receptacles very shallowly convex, conspicuously foveolate. Ray flowers 14–34 in a single series, corollas drying white to light purple, sometimes with a lilac midstripe, 10.0–14.0 mm long, ligules 1.4–2.4 mm wide, 4–8 veined, not curling or reflexing, conspicuously pubescent near the tube with biseriate trichomes, often with abundant uniseriate trichomes. Disc flowers tubular to narrowly funnelform, not inflated or indurated, 4.8–5.9 mm long; style branches 1.1–1.3 mm long, including the triangular to narrowly triangular or lanceolate collecting appendages 0.4–0.6 mm long. Achenes narrowly oblong, slightly compressed radially, 3.5–4.5

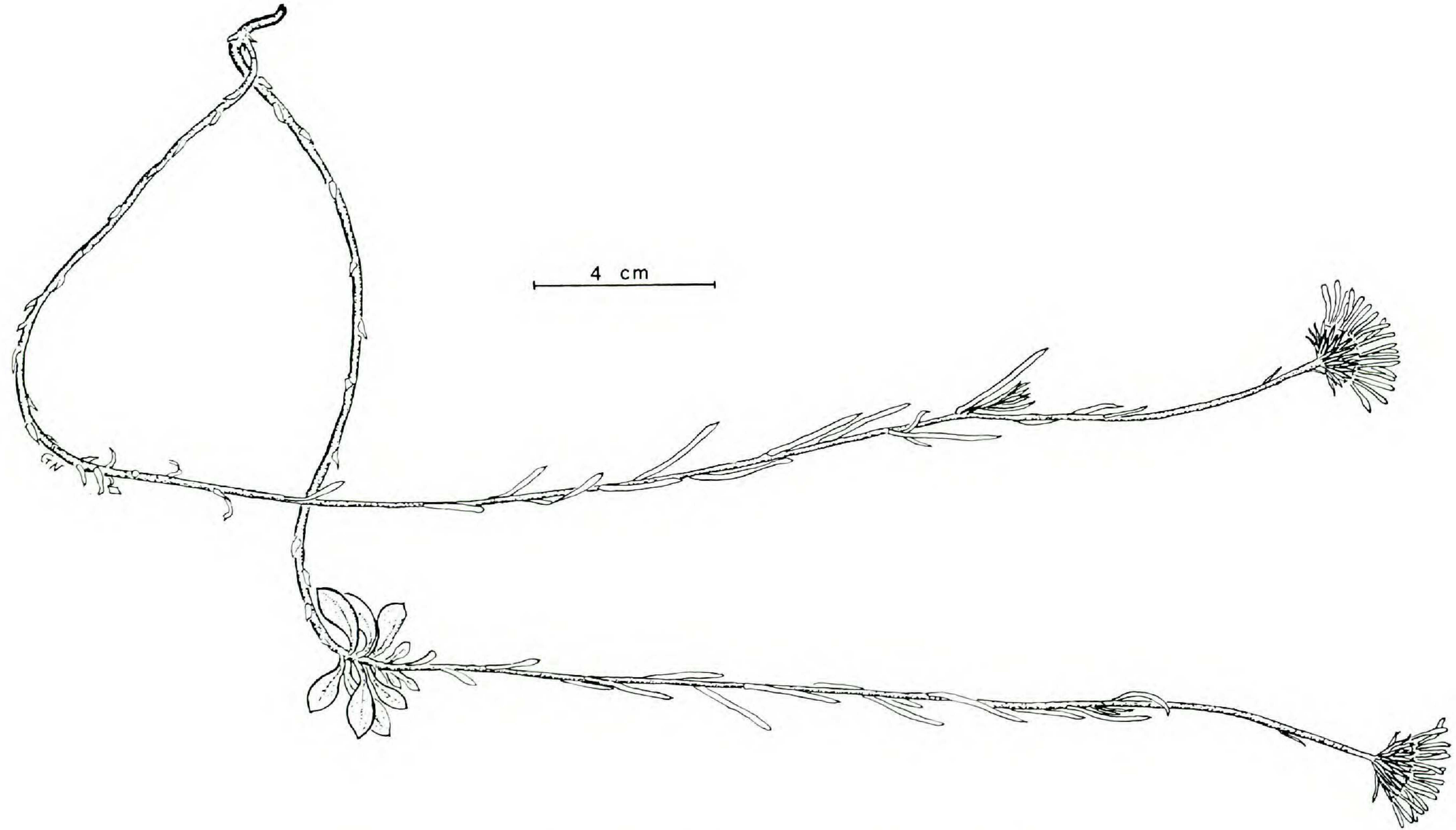


Figure 2. Habit sketch of *Erigeron lepidopodus* (Robinson and Fernald) Nesom
(Palmer 190, UC).

mm long, 0.7–0.9 mm wide, with 2 or 4 thick, light-colored ribs, densely strigose to sericeous; carpodium 8–14 cells high; pappus of ray and disc achenes similar, of 34–50 persistent bristles of unequal length, the longest nearly equalling the disc corolla height, with a few outer setae or bristles 0.4–0.8 mm high.

Additional collections examined: CHIHUAHUA: aquatic plants covering 50% of the water surface in water holes along arroyo and at base of rock outcrops, in pine-oak forest SE of Creel, 2400 m (ca 7200 ft), Mcpio. de Bocoyna, 9 May 1973, *Bye* 3687 (COLO, MEXU); Mojarachic, 9 Apr 1940, *Knobloch* 7055 (US); vicinity of Madera, ca 2250 m, 27 May–3 Jun 1898, *Palmer* 286 (CM, MO, US); near Colonia Garcia, 2500 m (7500 ft), 7 Jun 1899, *Townsend and Barber* 12 (MO, NY, US); Durango, San Ramón, 21 Apr–18 May 1906, *Palmer* 190 (CM, MO, NY, UC, US).

Although few qualitative characters can be used without exception to distinguish *Aster* from *Erigeron*, the narrow, non-herbaceous phyllaries of *E. lepidopodus* are out of place in *Aster* but characteristic of *Erigeron*. Ligules which remain straight rather than curling with maturity and a double pappus also are more commonly found in *Erigeron*. Also, while the lanceolate collecting appendages of the disc flower style branches such as in *E. lepidopodus* are more typical of those found in *Aster*, they occur as well in other species of *Erigeron*.

The more appropriate generic placement of this species was also recognized earlier by E. L. Greene. He apparently intended to make the new combination, because the plants collected by Townsend and Barber were distributed with printed labels reading "Erigeron lepidopodus Greene", but this name was never formally validated by publication.

In addition to the unusual, scale-leaved, rootless, rhizomiform branches of *Erigeron lepidopodus*, other distinctive characters are the reduced branching of the erect stems, linear, ascending cauline leaves, relatively small number of ray flowers, strongly unequal to imbricated phyllaries, lanceolate collecting appendages of the style branches, and densely strigose to sericeous, narrowly oblong achenes with a relatively large number of pappus bristles. The achenes are not columnar, as originally described by Robinson and Fernald; as is typical in *Erigeron*, they are radially compressed, though not strongly.

The affinities of *Erigeron lepidopodus* with the genus are not clear.

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